

Climate at a Glance: Crop Production

Bullet Point Summary:

- As our planet gradually warms, [global crop yields](#) and crop yields across the planet are setting new records almost every year.
- [U.S. crop yields](#) continue to grow, setting new records nearly every year.
- Longer growing seasons, higher temperatures, and more atmospheric carbon dioxide are creating ideal crop conditions.

Short Summary: As global climate modestly warms, U.S. and global crop yields are setting new records almost every year. The same is true for nearly all other nations, too. Thanks in large part to longer growing seasons, fewer frost events, more precipitation, and the fertilization effect of atmospheric carbon dioxide, farmers are producing more food on less land, allowing them to feed a growing global population.

Crop Production Facts: The 2019 global crop year [brought record production](#) of the important cereal crops; corn, wheat, and rice. This builds on previous records set nearly every year during the past decade. Almost every important U.S. crop [has set record yields per acre](#) during the past three years (latest data for when this summary went to press in February 2020), with most of the top 10 years in yields-per-acre occurring during the past decade. For example, each of the three record-high corn yields have occurred during the past three years. Each of the five record-high rice yields have occurred during the past five years. Each of the past nine years have produced top-10 all-time wheat yields.

How Global Warming Benefits Crop Production: Global warming lengthens growing seasons, reduces frost events, and makes more land conducive for crop production. Global soil moisture has [maintained pace or modestly improved](#) as global temperatures have risen modestly, with greater oceanic evaporation leading to more global precipitation, especially during summer and fall crop seasons. Further, carbon dioxide greatly benefits crop production, as atmospheric carbon dioxide works as aerial fertilizer. Higher atmospheric carbon dioxide levels assist plant growth and resistance to drought and heat. It is for this reason that greenhouses often pump in elevated amounts of carbon dioxide.

Figure 1: Global Cereal Crop Production



Source: U.N. Food and Agriculture Organization:
<http://www.fao.org/worldfoodsituation/csdb/en/>.

More Information: Crop yields [in nearly every country](#) are growing, with many frequently setting new records. See the 25:35 mark and onward in the video linked above. The video is The Heartland Institute's rebuttal to the United Nations' 2019 Civil Society Conference.

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